

Heading: Revised Service Area Proposal supported by the Board of Supervisors at the July 12th Meeting

From: Cumberland Volunteer Rescue Squad (CVRS)
Cartersville Volunteer Rescue Squad (CVVRS)

Date: July 12, 2005

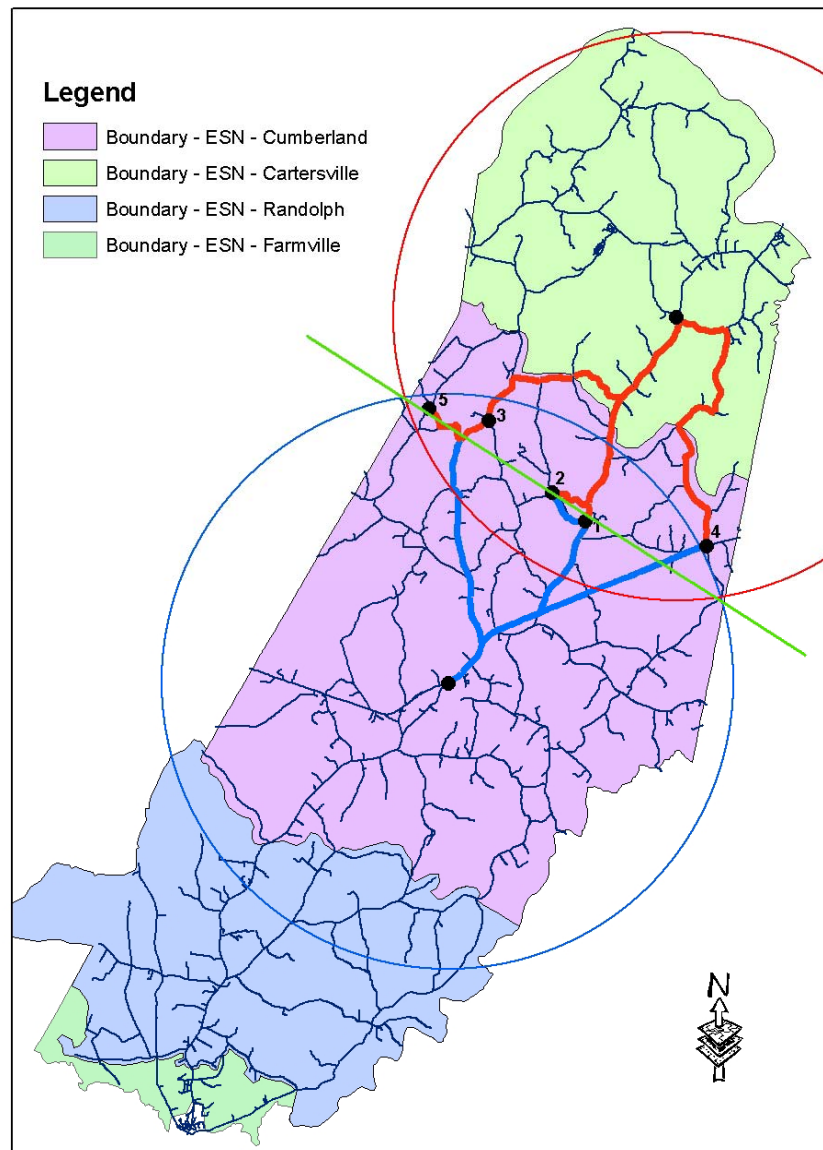
Re: Proposal to revise service area maps for rescue services

Historical Information – Emergency service areas presently are defined mostly by the local telephone exchange 3-digit prefix (footprint); where 375-xxxx is serviced by Cartersville agencies, 492-xxxx is serviced by Cumberland agencies and 392-xxxx is serviced by Prince Edward agencies. It is an efficient means to quickly identify the appropriate responding agency for a 911 incoming call. However, the past relocation of the Cartersville Volunteer Rescue Squad was not considered where some addresses may be more quickly responded to by Cartersville Volunteer Rescue Squad.

Proposal - In an effort to minimize the response time for the various agencies, the Emergency Services Committee (ESC) is reviewing the current service areas. Electronic mapping (commonly referred to as geographic information systems, or GIS) and global positioning services (GPS) are being used to evaluate the current footprints. Shifts in the service areas will undoubtedly prevent dispatchers from identifying correct agencies by local exchange prefixing only. Instead, the GIS mapping recently installed and funded through Virginia Wireless 911 Board (2004) will be responsible for correctly identifying the appropriate agencies immediately after a 911 call is received. Through the assistance of Commonwealth Regional Council (CRC) and the Director of Information Technology for Cumberland County we propose one or more revisions to the current service areas (Figure 1).

Figure 1 – Current and Proposed Cumberland/Cartersville Rescue Service Areas

CUMBERLAND EMERGENCY SERVICE ZONES



Revisions to the Cartersville and Cumberland service border are based on the following criteria:

- Equal distance radii were drawn from each of the two squad buildings.
- The two intersecting vertices (blue and red circle) defined a preliminary boundary (green line).
- Intersections of two or more road centerlines closest to the above line were identified.

- Distances from respective squad buildings to each intersection were determined and compared (Table 1).
- In most cases, the intersections were within 5% of each other (distance). Intersection #3 is the only outstanding point, warranting reconsideration.

Table 1 - Initial Road Centerline Estimates For Adjusted Service Area

Agency	Intersection	Distance (mile)	Response Time (min.)	Percent Difference
CUVRS	1	6.3	6	0
CVVRS		6.3	6	
CUVRS	2	7.7	8	0
CVVRS		7.3	8	
CUVRS	3	9	11	8
CVVRS		7.6	13	
CUVRS	4	8.4	9	14
CVVRS		9	12	
CUVRS	5	9.2	12	14
CVVRS		10	16	

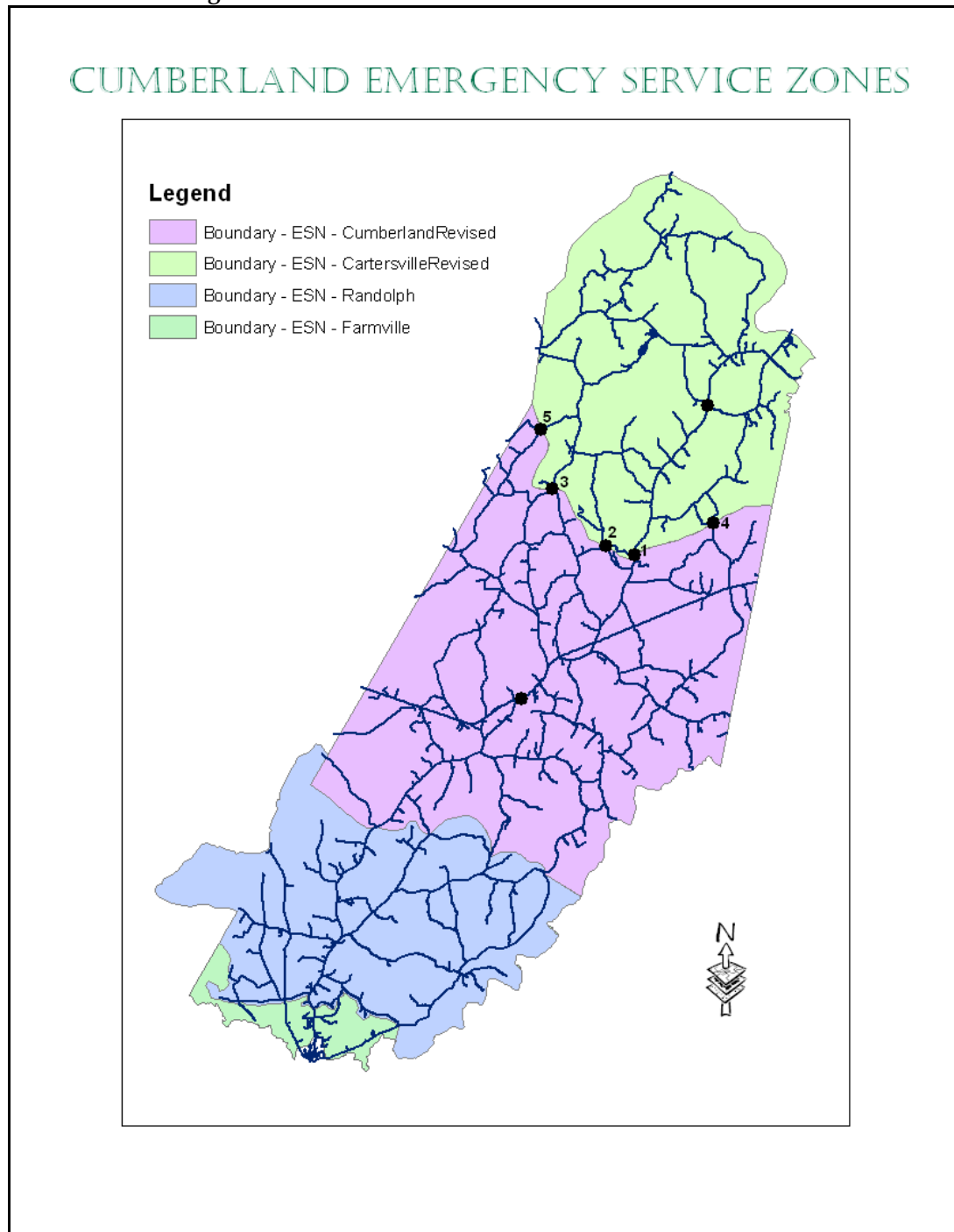
The proposed routes are being driven and revised as necessary. Table 1 also reflects the first comparisons. Owing to unpaved sections (gravel) the intersections 3, 4 and 5 need to be relocated in order to equalize the response times by both agencies.

The goal is to improve response times during an emergency. The tentative implementation date is set for August 1, 2005. We will be working closely with the dispatchers to ensure a seamless implementation and ideal transition to the new service areas. It is our intention to monitor this closely over the next 90 days and beyond to ensure all 911 calls are responded to in the safest and fastest way possible.

Addendum (08/01/05):

Revisions to the suggested service areas were made (Figure 2), concentrating on the unequal response times along the western border (Table1). One or more unpaved roads greatly increased the response times when originating from the Cartersville squad building.

Figure 2 – Revised Service Areas for Cumberland/Cartersville Rescue



Percent differences (Table 2) in response times from both squad buildings were reduced from as much as 14% down to 5%. Intersections marked as 5 and 3 were relocated in more northerly direction along Sports Lake Road and Sugar Fork Road. Table 3 reflects the final statistics associated with the number of addresses serviced by each agency for both current and proposed service areas.

Table 2 - Initial Road Centerline Estimates For Adjusted Service Area

Agency	Intersection	Distance (mile)	Response Time (min.)	Response Percent Difference
CUVRS	1	6.8	7	7
CVVRS		5.9	8	
CUVRS	2	7.6	8	0
CVVRS		7.1	8	
CUVRS	3	9.2	11	0
CVVRS		7.8	11	
CUVRS	4	10.5	10	5
CVVRS		6.5	11	
CUVRS	5	12.1	14	3
CVVRS		9.8	15	

Table 3 – Service Area Statistics

		Current	Revised	% Difference
Total Addresses	CUVRS	2209	2093	-3
	CVVRS	937	1057	6
Total Mileage	CUVRS	196	169	-7
	CVVRS	83	110	14
Addresses Per Mile	CUVRS	11	12	5
	CVVRS	11	10	-8